# N-Dimensional Modeling
with the I Ching

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The I Ching is the Chinese system of understanding the universe. Its implications here begin with the geometry underlying the system. The Tao is represented by a single point, which is all and none. From the point polarizes male and female energies - a solid bar and an broken bar (negative atnd positive). These two energies split again into the four seasons, clockwise from the top, Summer, Autumn, Winter, and Spring. These four seasons split again into eight emanations of nature, clockwise from the top they are Heaven, Lake, Water, Thunder, Earth, Mountain, Fire, and Air.
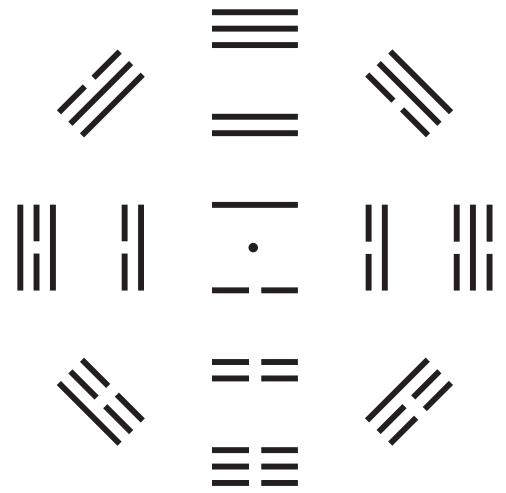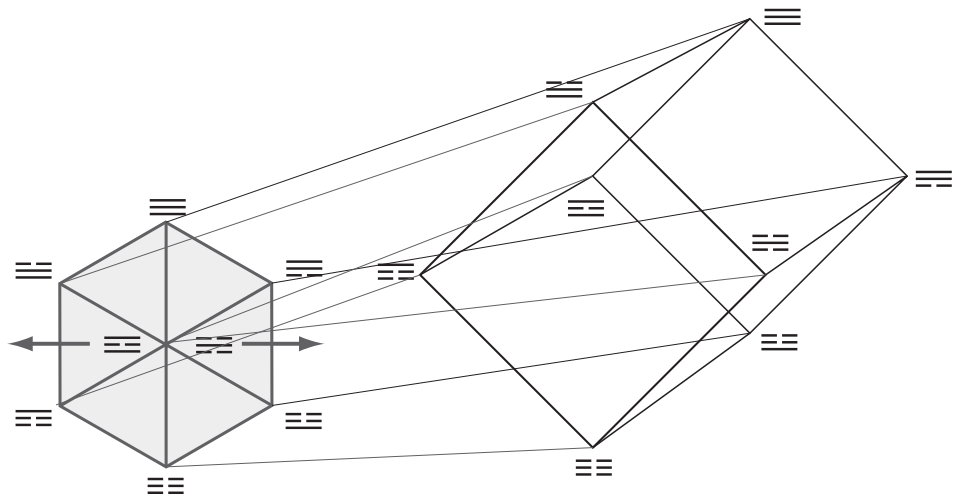
These eight trigrams, however, have a cube-root of 2, meaning that you can construct a three-dimensional cube with two trigrams on each edge - defining the cube's octants (you can construct this cube in an XYZ coordinate space in a similarly logical manner).
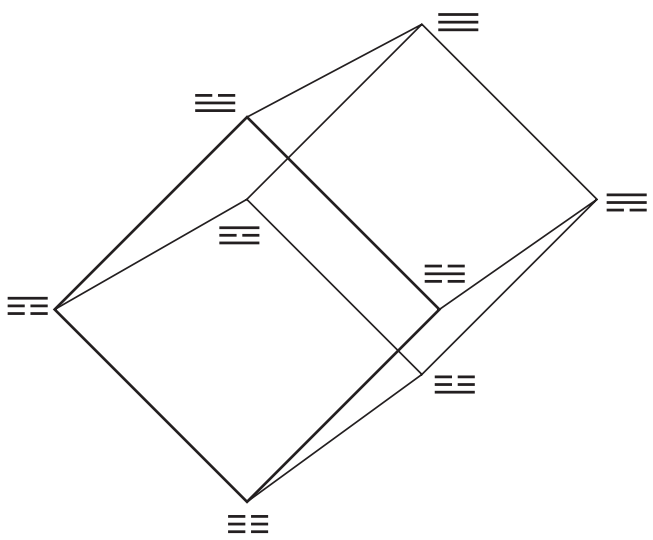
The trigrams can be geometrically arranged around the cube in a balanced and mathematically obvious manner. The two most divergent trigrams are heaven and earth, three breaks and three bars. These are set at two opposite corners of the cube. From each of these corners three edges run to three corners which can each been seen as one order of magnitude away. At each of these corners one differing bar is replaced with the high, medium, and low bar; so in the case of three bars, one break is replaced with the high, medium and low bar at each of the corners, yielding air, fire, and lake. The same is done with the three corners adjacent to the three breaks. The numeric and geometric characteristics of the trigrams at these points allows us polarize their orientation to opposing corners.

However, there are several possible orientations, so another metric must be used, and here we can begin to see how the Chinese peoples who designed the I Ching may have been aware of these geometries in their basic notation.

If a physical cube has a light projected on it, the shadow cast by it can have a maximum of six sides. With the proper orientation the shadow can appear as a uniform hexagon, and we can label the corners of this hexagon with their respective trigrams from the projected cube. The two trigrams at the center, which are the closest and farthest from the light, aare set to their nearest edge. Again, many orientations are possible, however, one of those orientations is that of the Fu Hsi (classical) arrangement, which is also the most geometrically balanced orientation. Thus the classical (2D) trigram arrangement is also a map for a geometrically balanced cubic arrangement (3D).

From our primary cube, we can further map each octant as a smaller cube using the same notation system. We could thus use two trigrams to indicate any point in this fourth-dimensional space. Classically, two stacked trigrams were called a hexagram, and in this manner a hypercubic structure can be defined. Since this progression follows a regular metric, we can also extrapolate any n-dimensional level of depth, which will exhibit fractaline properties. This same model could apply in 3D space by mapping volumetric regions, and its application to inner-earth phenomena can be seen via vthe intersecting tetrahedra geometries underlying the cube. Eight flat planes are created by this configuration (three of which are visible in the diagram
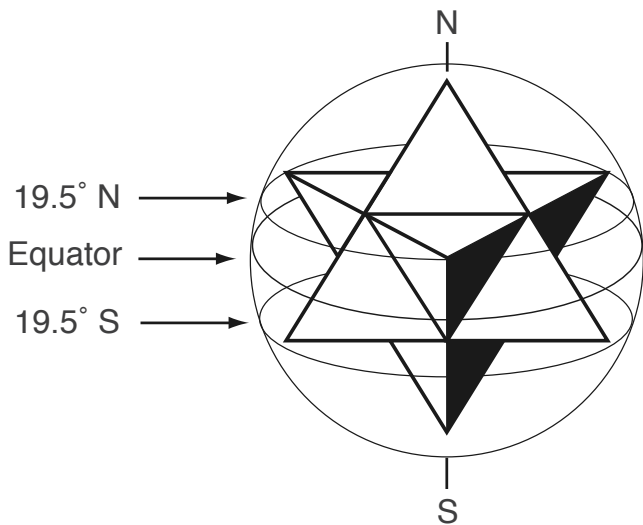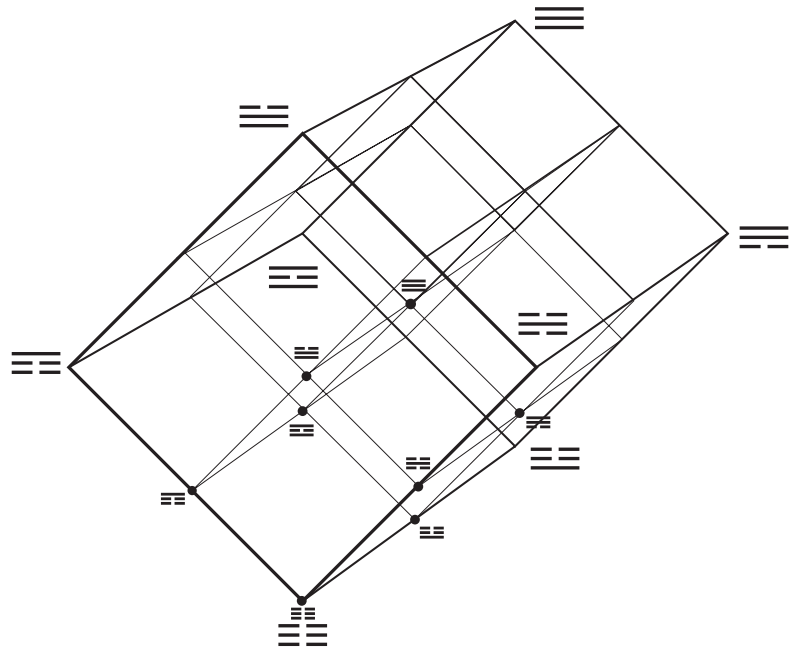
below). If this were fit to a sphere, the 'non-polar' extremities would reside at 19.5° above and below the equator. As it turns out, most major geological activity on the Earth occurs at 19.5°. This is the region for major storms on Jupiter and Venus, and is where most sun-spot activity occurs in stars - implying that this geometry is underlying all celestial bodies.

Rotation can also be plotted by the use of such celestial concepts in the cubic geometry. If the heaven and earth trigrams are used as an axis, the other six points can be moved through 'linearly' in high-low sequences. When these are traced around the cir-

cumference of the 'sphere' we arrive at a sinusoidal wave which is associated to the base trigram notation. If we combine this wave mapping with our hypercubic structure we can plot n-dimensional wave propagation.

Yang Cycle [14]

Yin Cycle [7]